WHAT IS CLAIMED IS:

1. A rotary electric machine including a cylindrical stator core, an armature winding mounted in said stator core,

wherein said armature winding comprises six phase-windings which are $\pi/3$ in electric angle different from each other and form a first three-phase armature winding having three first output terminals which are $2\pi/3$ in electric angle different from each other and a second group of second three-phase armature windings having three second output terminals which are $2\pi/3$ in electric angle different from each other;

wherein each of said six phase-windings comprises a pair of sub-phase windings; and

wherein each of said first and second armature windings comprises Δ-connected three sub-phase-windings having three junctions that are $2\pi/3$ in electric angle different from each other and three sub-phase-windings respectively connected in series between the three junctions and the first and second output terminals.

2. The rotary electric machine as claimed in claim 1,

wherein said three first output terminals and said three second output terminals are different in phase from each other.

3. The rotary electric machine as claimed in claim 2, further comprising a full-wave rectifier unit connected to said first and second output terminals.

4. The rotary electric machine as claimed in claim 3,

wherein each of said phase-windings comprises a plurality of conductor segments, and

wherein said stator core has a plurality of slots each of which accommodates four conductor segments.

5. A rotary electric machine, comprising:

a cylindrical stator core; and

a pair of armature windings mounted in said stator core;

wherein each said armature winding has a first group of Δ-connected three phase windings having junctions that are $2\pi/3$ in electric angle different from each other and a second group of three phase-windings having output ends that are $2\pi/3$ in electric angle different from each other and input ends respectively connected in series to said junctions of said first group.

6. A rotary electric machine having six phase windings arranged in different electric angles, the rotary electric machine comprising:

a first three-phase winding including a Δ-connected portion and a wye connected portion, windings of the wye connected portion extending from three ends of the Δ-connected portion respectively; and

a second three-phase winding including a Δ-connected portion and a wye connected portion, windings of the wye connected portion extending from three terminal ends of the Δ-connected portion respectively, wherein

each of the phase windings comprising a first section and a second section,

three of the phase windings comprising the first section providing the Δ-connected portion of the first three-phase winding and the second section providing the wye connected portion of the second three-phase winding, and

remaining three of the phase windings comprising the first section providing the wye connected portion of the first three-phase winding and the second section providing the Δ-connected portion of the second three-phase winding.

7. The rotary electric machine as claimed in claim 6, wherein the former three of the phase windings are arranged alternately within six of the phase windings, and the latter three of the phase windings are also arranged alternately within six of the phase windings.

8. The rotary electric machine as claimed in claim 7, wherein three-phase outputs of the first three-phase winding and three-phase outputs of the second three-phase winding are shifted with respect to the electric angle.

9. The rotary electric machine as claimed in claim 8, further comprising a full-wave rectifier connected with six of phase outputs provided by the first and second three-phase winding.

10. The rotary electric machine as claimed in claim 9, further comprising a stator core having a plurality of slots, each slot accommodating four conductors providing one of the phase windings.

11. The rotary electric machine as claimed in claim 10, wherein all of the phase windings are divided into the first section and the second section with the same ratio.

12. The rotary electric machine as claimed in claim 11, wherein all of the phase windings are evenly divided into the first section and the second section.